



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/677,476	10/02/2000	John R. Ripley	800433	4524
23372	7590	04/09/2004	EXAMINER	
TAYLOR RUSSELL & RUSSELL, P.C. 4807 SPICEWOOD SPRINGS ROAD BUILDING ONE, SUITE 1200 AUSTIN, TX 78759			SANTOS, PATRICK J D	
			ART UNIT	PAPER NUMBER
			2171	
DATE MAILED: 04/09/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	<i>hr</i>
	09/677,476	RIPLEY ET AL.	
	Examiner	Art Unit	
	Patrick J Santos	2171	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 02 October 2000.  
 2a) This action is **FINAL**.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-19 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-19 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 02 October 2000 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 8 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, Claim 19 contains limitations that are in parentheses (Specification: p. 26, clm. 8, lns. 3 and 6; p.29, clm. 19, lns. 3, and 5-6). The parentheses render the Claim indefinite because it is unclear if the parenthetical phrase is meant to be a clarifying example or is meant to be limiting. See MPEP 2173.05(d).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,594,673 issued to Smith et al. (hereafter Smith '673) in view of U.S. Patent No. 6,618,727 issued to Wheeler et al. (hereafter Wheeler '727).

Claim 1:

Regarding Claim 1, Smith '673 discloses a computer implemented visualization model of similarity relationships between documents (Smith '673: Abstract) comprising:

- performing a search (Smith '673: col. 8, lns. 54-57);
- creating a visual representation of the similarities between the reference document and the at least one target document (Smith '673: col. 8, lns. 64-67; col. 9, lns. 24-40);
- creating a visual representation of the similarities between the reference document and the at least one target document (Smith '673: col. 8, lns. 64-67; col. 9, lns. 24-40); and
- displaying the visual representations of the database documents and their similarities on a graphical user interface (Smith '673: col. 8, lns. 64-67; col. 9, lns. 24-40).

However, Smith '673 does not explicitly disclose a similarity search.

Wheeler '727 discloses a similarity search engine (Wheeler '727: Abstract).

Specifically, Wheeler '727 discloses:

- performing a similarity search based on at least one attribute of a reference document to find at least one target document with similar attributes (Wheeler '727: col. 2, ln. 61 to col. 3, ln. 10; col. 9, lns. 4-23);

It would have been obvious for a person having ordinary skill in the art, to substitute the similarity search function of Wheeler '727 for the generic search function of Smith '673. The motivation to accomplish said substitution is suggested by Wheeler '727 which discloses that similarity searching allows the generation of query results in which the data sources are incomplete, inaccurate, or otherwise contains errors as are typically found in extremely large data sets (Wheeler '727: col. 1, lns. 42-54).

Claims 2-3, and 17:

Regarding Claims 2-3, and 17, Smith '673 and Wheeler '727 in combination disclose all the limitations of Claim 1 (supra). Further note that Smith '673 and Wheeler '727 additionally disclose:

- (Claim 2) Wherein the at least one target documents that are similarly searched reside in a plurality of databases (Wheeler '727: col. 1, lns. 55-65) and (Smith '673: col. 5, lns. 33-42). Note that the "interaction media" of Smith '673 includes data from multiple sites reads on the documents residing in a plurality of databases.
- (Claim 3) Wherein the similarity search returns a result set of target documents that are used by the visualization model to create the visual representation of the documents and the similarities between the documents (Smith '673: col. 9, lns. 24-40).
- (Claim 17) Wherein the visual representation is three dimensional (Smith '673: Fig. 13).

Claim 4:

Regarding Claim 4, Smith '673 discloses a computer-implemented interactive visualization model of similarity relationships between documents (Smith '673: Abstract) comprising:

- using a search (Smith '673: col. 8, lns. 54-57);
- creating a visual representation of the reference document and each target document (Smith '673: col. 8, lns. 64-67; col. 9, lns. 24-40);
- creating a visual representation of similarities between the reference document and each target document (Smith '673: col. 8, lns. 64-67; col. 9, lns. 24-40); and

- displaying the visual representation of the reference documents and each target document and their similarities on a graphical user interface (Smith '673: col. 8, lns. 64-67; col. 9, lns. 24-40).

However, Smith '673 does not explicitly disclose a similarity search.

Wheeler '727 discloses a similarity search engine (Wheeler '727: Abstract).

Specifically, Wheeler '727 discloses:

- using a similarity search performed on attributes of a reference document which results in a set of 0 to n target documents with similar attributes (Wheeler '727: col. 2, ln. 61 to col. 3, ln. 10; col. 9, lns. 4-23).

It would have been obvious for a person having ordinary skill in the art, to substitute the similarity search function of Wheeler '727 for the generic search function of Smith '673. The motivation to accomplish said substitution is on the same basis as Claim 1 (supra).

Claims 5-6:

Regarding Claim 5-6, Smith '673 and Wheeler '727 in combination disclose all the limitations of Claim 4. Further note that Smith '673 and Wheeler '727 additionally disclose:

- (Claim 5) Further comprising allowing a user using the graphical user interface to initiate the similarity search and select the attributes of the reference document to be used in the similarity search (Wheeler '727: col. 9, lns. 4-23).
- (Claim 6) Further comprising allowing a user using the graphical user interface to choose any attributes of the reference document to be used in the similarity search (Wheeler '727: col. 9, lns. 4-23).

Claim 7:

Regarding Claim 7, Smith '673 and Wheeler '727 disclose all the limitations of Claim 6 (supra). Further note that Smith '673 and Wheeler '727 disclose:

- Further comprising using attributes of a target document as a source for a new similarity search (Wheeler '727: col. 7, lns. 58-63). Note that using the result of a previous query reads on using the attributes of a target document as a source for a new similarity search.

Claim 8:

Regarding Claim 8, Smith '673 discloses a computer-implemented visualization model of similarities between documents comprising:

- displaying a reference hierarchical object (a reference model node) (Smith '673: col. 8, lns. 64-67; col. 9, lns. 24-40);
- allowing a user to initiate a search (Smith '673: col. 8, lns. 54-57);
- visually representing the reference model node and the at least one target model node that meet a similarity search criteria (Smith '673: col. 8, lns. 64-67; col. 9, lns. 24-40);
- visually representing the similarities between the reference model node and each target model node as a model edge (Smith '673: col. 8, lns. 64-67; col. 9, lns. 24-40);
- displaying the visual representations of the model node and model edge on a graphical user interface (Smith '673: col. 8, lns. 64-67; col. 9, lns. 24-40).

However, Smith '673 does not explicitly disclose a similarity search.

Wheeler '727 discloses a similarity search engine (Wheeler '727: Abstract).

Specifically, Wheeler '727 discloses:

- allowing a user to initiate a similarity search, based on at least one attribute of the reference hierarchical object, to find at least one target hierarchical objects (a target model node) (Wheeler '727: col. 2, ln. 61 to col. 3, ln. 10; col. 9, lns. 4-23).

It would have been obvious for a person having ordinary skill in the art, to substitute the similarity search function of Wheeler '727 for the generic search function of Smith '673. The motivation to accomplish said substitution is on the same basis as Claim 1 (supra).

Claims 9-12, and 15:

Regarding Claims 9-12, and 15, Smith '673 and Wheeler '727 in combination disclose all the limitations of Claim 8 (supra). Further note that Smith '673 and Wheeler '727 in combination disclose:

- (Claim 9) Wherein the model node comprises:
  - o a reference to the hierarchical object the model node represents (Smith '673: col. 4, ln. 47 to col. 5, ln. 12);
  - o a reference to at least one attribute of the hierarchical object used in the similarity search if a model edge exists (Smith '673: col. 4, ln. 47 to col. 5, ln. 12); and
  - o visual properties of the hierarchical document the mode node represents (Smith '673: col. 9, lns. 24-52).
- (Claim 10) Further comprising storing the visual representation of the reference model node, each target model node, and each model edge in the computer memory, or on disk (Smith '673: col. 3, lns. 51-63).
- (Claim 11) Wherein the model edge comprises:

- an identifier of the reference model node from which the visual representation of the mode edge will extend and an identifier of the at least one target model node to which the visual representation of the mode edge will extend (Smith '673: col. 4, ln. 47 to col. 5, ln. 12; col. 9, lns. 24-52); and
- a list of the similarity search attributes used in the similarity search (Smith '673: col. 4, ln. 47 to col. 5, ln. 12; col. 9, lns. 24-52).
- (Claim 12) Further comprising user chosen attributes to be used in the similarity search (Smith '673: col. 7, ln. 66 to col. 8, ln. 18).
- (Claim 15) Wherein each model edge indicates a degree of similarity between the reference hierarchical object and the target hierarchical object is displayed as a line connecting model nodes, said model nodes are depicted as geometric shapes on the graphical user interface (Smith '673: col. 8, lns. 64-67; col. 9, lns. 24-40).

Claim 16:

Regarding Claims 16, Smith '673 and Wheeler '727 in combination disclose all the limitations of Claim 15 (supra). Further note that Smith '673 and Wheeler '727 in combination disclose:

- Wherein the length of the line connecting the model nodes varies as a function of the degree of similarity between the reference document and the target document referenced by the model nodes (Smith '673: col. 9, lns. 24-27).

Claim 13:

Regarding Claim 13, Smith '673 discloses a computer-implemented method of visualizing similarity relationships between documents (Smith '673: Abstract) comprising:

Art Unit: 2171

- performing a search (Smith '673: col. 8, lns. 54-57);
- converting each hierarchical document to a model node that visually represents each hierarchical document to be displayed on a graphical user interface (Smith '673: col. 8, lns. 64-67; col. 9, lns. 24-40); and
- using the similarity search results, creating a model edge that visually represents the similarities between the reference hierarchical document and each hierarchical document in the result set to be displayed on a graphical user interface (Smith '673: col. 8, lns. 64-67; col. 9, lns. 24-40).

However, Smith '673 does not explicitly disclose using a reference hierarchical document and does not explicitly disclose a similarity search.

Wheeler '727 discloses a similarity search engine (Wheeler '727: Abstract).

Specifically, Wheeler '727 discloses:

- using a reference hierarchical document (Wheeler '727: col. 2, ln. 61 to col. 3, ln. 10; col. 3, lns. 46-65); and
- performing a similarity search based on user selected attributes of the reference hierarchical document and determining a result set of target documents comprising 0 to n hierarchical documents (Wheeler '727: col. 2, ln. 61 to col. 3, ln. 10; col. 9, lns. 4-23);

It would have been obvious for a person having ordinary skill in the art, to substitute the similarity search function of Wheeler '727 for the generic search function of Smith '673. The motivation to accomplish said substitution is on the same basis as Claim 1 (supra).

Claim 14:

Regarding Claim 14, Smith '673 and Wheeler '727 in combination disclose all the limitations of Claim 13 (supra). Further note that Smith '673 and Wheeler '727 in combination disclose:

- Further comprising displaying the model edge, model node on a graphical user interface (Smith '673: col. 8, lns. 64-67; col. 9, lns. 24-40).

Claim 18:

Regarding Claim 18, Smith '673 discloses a computer-readable medium containing instructions for a visualization model of similarity relationships between documents (Smith '673: Abstract) comprising:

- performing a search (Smith '673: col. 8, lns. 54-57);
- creating a visual representation of the reference database document at the at least one target document (Smith '673: col. 8, lns. 64-67; col. 9, lns. 24-40);
- creating a visual representation of the similarities between the reference document and the at least one target document (Smith '673: col. 8, lns. 64-67; col. 9, lns. 24-40); and
- displaying the visual representations of the database documents and their similarities on a graphical user interface (Smith '673: col. 8, lns. 64-67; col. 9, lns. 24-40).

However, Smith '673 does not explicitly disclose a similarity search.

Wheeler '727 discloses a similarity search engine (Wheeler '727: Abstract).

Specifically, Wheeler '727 discloses:

- performing a similarity search based on at least one attribute of a reference document to find at least one target document with similar attributes (Wheeler '727: col. 2, ln. 61 to col. 3, ln. 10; col. 9, lns. 4-23);

It would have been obvious for a person having ordinary skill in the art, to substitute the similarity search function of Wheeler '727 for the generic search function of Smith '673. The motivation to accomplish said substitution is on the same basis as Claim 1 (supra).

Claim 19:

Regarding Claim 19, Smith '673 discloses a computer-readable medium containing instructions for a visualization model of similarities between documents (Smith '673: Abstract) comprising:

- displaying a reference hierarchical object (a reference model node) (Smith '673: col. 8, lns. 64-67; col. 9, lns. 24-40);
- allowing a user to initiate a search (Smith '673: col. 8, lns. 54-57);
- visually representing the reference model node and the at least one target model node that meet a similarity search criteria (Smith '673: col. 8, lns. 64-67; col. 9, lns. 24-40);
- visually representing the similarities between the reference model node and each target model node as a model edge (Smith '673: col. 8, lns. 64-67; col. 9, lns. 24-40); and
- displaying the visual representations of the model node and mode edge on a graphical user interface (Smith '673: col. 8, lns. 64-67; col. 9, lns. 24-40).

However, Smith '673 does not explicitly disclose a similarity search.

Wheeler '727 discloses a similarity search engine (Wheeler '727: Abstract).

Specifically, Wheeler '727 discloses:

- allowing a user to initiate a similarity search, based on at least one attribute of the reference hierarchical object, to find at least one target hierarchical objects (a target model node) (Wheeler '727: col. 2, ln. 61 to col. 3, ln. 10; col. 9, lns. 4-23);

It would have been obvious for a person having ordinary skill in the art, to substitute the similarity search function of Wheeler '727 for the generic search function of Smith '673. The motivation to accomplish said substitution is on the same basis as Claim 1 (supra).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- U.S. Patent Application No. US 2001/0049695 by Chi et al. "Visualization Spreadsheet." Reference teaches a basic loop of taking data, presenting it, taking input from user, and modifying presentation accordingly.
- U.S. Patent No. 5,894,311 issued to Jackson "Computer-Based Visual Data Evaluation." Reference teaches a basic loop of taking data, presenting it, taking input from user, and modifying presentation accordingly (also).
- Tan, Ah-Hwee, "Text Mining: The State of the Art and the Challenges", 1999, Kent Ridge Digital Labs ([http://www.ewastrategist.com/papers/text\\_mining\\_kdad99.pdf](http://www.ewastrategist.com/papers/text_mining_kdad99.pdf)).
- Howe, Adele E.; Daniel Dreilinger, "SavvySearch: A Meta-Search Engine that Learns which Search Engines to Query" 1997, AI Magazine. Reference may be used for Claim 2, which recites that the documents reside in multiple databases.
- The KartOO (TM) website <http://www.kartoo.com>. Reference discloses a meta search engine that uses a graphical user interface graphical map to show the relationship of documents. Note that KartOO work started in 1998, but the company started in 2001. Applicant shows a priority date from 1999.
- The following websites also offer other graphical art:
  - o <http://www.plumbdesign.com/products/thinkmap>
  - o <http://www.map.net/>
  - o [http://www.webbrain.com/html/default\\_win.html](http://www.webbrain.com/html/default_win.html)

- <http://www.antarti.ca>
- <http://vivisimo.com>

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick J.D. Santos whose telephone number is 703-305-0707. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 703-308-1436. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patrick J.D. Santos  
April 4, 2004

  
SAFET METJAHIC  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100